

STUDIES OF TROPICAL AMERICAN  
LEGUMINOSAE—VIII

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In studies of some recent Brazilian collections, material of several new taxa came to light. In addition, several collections were received which extend our knowledge of the morphology and distribution of a genus I described several years ago.

*Macrolobium prancei* Cowan, sp. nov.

*Description*.—Arbor 3-6 m alta, ramulis glabris, nigris; stipulae persistentes, 10 mm longae, 0.4 mm latae, subulatae, ciliolatae; folia glabra, paripinnata, petioli 4-5 mm longi, canaliculati vel breviter alati supra, rhachibus 28-40 mm longis, alatis, aliis ca. 0.6 mm latis; foliola bijugata, sessilia, chartacea, jugo inferiore minore, 6.0-9.5 cm longo, 2-3 cm lato, jugo superiore 13-16 cm longo, 3.5-5.5 cm lato, anguste elliptica ad elliptica, base inequilaterali, angustato, plus minusve acuto, ad apicem acuminata, costa salienti, venulis obscuris; inflorescentiae 4-10 cm longae, ramuligerae, pedunculo 0-5 mm longo, minute puberulo, axe minute puberulo, bracteis deciduis, lanceolatis, 2 mm longis et 0.8-1 mm latis, pedicellis 4-6 mm longis, minute puberulis; alabastra truncato-cordulata ad basem; bracteolae ubique puberulae vel solum ad basem extus, oblongae, acuminatae, 8-10 mm longae, 3.5-5 mm latae; hypanthium glabrum, inaequilateraliter cupulatum, sepala reflexa, glabra, 2 adaxilibus minoribus, plus minusve liberis, 1.5-2 mm longis, 0.7-1 mm latis, triangularibus vel triangulari-lanceolatis, acutis, sepalis caeteris 3-5.5 mm longis, 1.5-2 mm latis, oblongo-lanceolatis, acuminatis; petalum album vel rubrum, oblanceolatum, 9-10 mm longum et 4-5 mm latum, glabrum, lamina rotundata, unguiculo 4-5 mm longo; filamenta basaliter pilosula, 22-25 mm longa; gynoeceium rubrum, stigmatibus capitulato, stylo 22-25 mm longo, glabro, ovario elliptico, ca. 2 mm longo et 1 mm lato, marginaliter leviter puberulo, gynophoro glabro versus apicem, apicem ipsem sparse puberulo excepto, 2 mm longo; furctus non visus.

*Type-Collection*.—D. G. Campbell, J. C. Ongley, and J. F. Ramos P-21961 (holotype US, sheet no. 2801087, isotypes A, CUIABA, F, INPA, K, MG, MO, NY, P, R, S, U), "Rio Cuieiras, 50 km upstream, near farm of Sr. Nemerio," Amazonas, Brazil, 8 April 1974.

*Additional Specimen Examined*.—Rio Cuieiras, 2 km downstream from farm of Sr. Caldez, Amazonas, Brazil, 5 April 1974, D. G. Campbell, J. C. Ongley, and J. F. Ramos 21862 (INPA, K, NY, US). Duplicates of these collections were distributed to the herbaria indicated before I had seen

them. Consequently, data from them are not included in the preceding description.

*Distribution.*—Known only from two collections made in primary forest on terra firme along the same Amazonian river.

*Discussion.*—The closest relationship of *M. prancei* apparently is with *M. guianense* (Aubl.) Pulle, but it is not a very close one. The new species differs from it and all others by the shape of the regularly bijugate leaflets and the ramuligerous inflorescences. It is named for G. T. Prance, Director of the scientific program at the New York Botanical Garden and enthusiastic authority on the flora of Amazonia.

*Macrobium limbatum* (Poepp. & Endl.) R. S. Cowan  
variety *propinquum* R. S. Cowan, var. nov.

*Description.*—Arbuscula 4 m alta, ramulis glabris, stipulis non visis; petiolus 8–9 mm longus, micro-puberulus, laminis coriaceis, 32–33.5 cm longis, 12–13 cm latis, equilateraliter attenuato-acutis basaliter, ad apicem longo-acuminatis, ad basem costae micro-puberulis infra, alioqui glabris; inflorescentiae axillares ad apicem ramulorum, axe 4.5–5 cm longo, micro-puberulo, bracteis deciduiis, ca. 1 mm longis et latis, triangularibus, ciliolatis, micro-puberulis extus, intus glabris, pedicellis 4–5 mm longis, minute puberulis, bracteolis 8 mm longis et 3.5 mm latis, obovato-ellipticis, abrupte acutis, minute puberulis extus, intus glabris; hypanthium infundibuliforme, glabrum, 2 mm longum, stipite 1 mm longo, glabro; sepala 4, oblonga, acuta, 6–6.5 mm longa, 2.5–3 mm lata, glabra; petali lamina destructa non visa, unguiculo 5 mm longo, sparse minute puberulo extus, intus villosa; filamenta 15–16 mm longa, sparse pilosa ad basem, antheris 3.6 mm longis et 1.8 mm latis, ovalibus, thecis minute aculeatis; gynoeceium fere glabrum, stigmatibus capitellato, stylo 11–12.5 mm longo, glabro, ovario 3 mm longo et 1 mm lato, sparse minute puberulo adaxialiter ad adaxilem marginem, gynophoro glabro, 1.5 mm longo.

*Type-Collection.*—E. Lleras, W. C. Steward, et al. P-17322 (holotype US, sheet no. 2801085, isotypes INPA, NY, K, U), "Behind São Paulo de Olivença," Rio Solimões, Amazonas, Brazil, 16 August 1973. Isotypes were not seen because they were distributed before my work was completed.

*Discussion.*—This new variety is quite near to *Macrobium limbatum* (Poepp. & Endl.) R. S. Cowan var. *mucronatum* R. S. Cowan, both phyto-geographically and morphologically. The differences separating them are several, but the most obvious is the nearly glabrous gynoeceia of var. *propinquum* (in allusion to the close relationships of the two varieties). In addition, the petioles are shorter in the new variety; its leaflets are larger and equilateral; the pedicels are longer; and the filaments are shorter and almost glabrous but the anthers are larger. The type localities

of the two varieties are separated by several hundred miles, but both are in northwestern Amazonia. Subsequent collections in the region may erase the distinctions, for both are known only from their type collections.

*Dicymbe puncticulosa* Cowan, sp. nov.

*Description*.—Arbor 4 m alta, ramuli juvenales leviter pilosulosi, mox glabrescentes, lenticellis salientibus et nigris; stipulae caducae, non visae; petioli 13–16 mm longi, teretes, sparse pilosulosi, rhachibus 5–6.5 cm longis, sparse pilosulosi et nigro-lenticellatis infra, lenticellis salientibus; foliola 4-jugata, petiolulis 3.5–4 mm longis, pilosulosi, teretibus, laminis tenuiter coriaceis, 44–52 mm longis, 28–36 mm latis, ovalibus vel ellipticis, rotundatis vel leviter cordatis, inaequilateralibus ad basem, abrupte acutis ad apicem, glabris supra, infra puncticulatis, costa leviter pilosulosa et salienti; inflorescentiae axillares et terminales, 6–10 cm longae, composito-racemosae, axe pilosuloso, bracteis caducis, non visis, pedicellis 5–7 mm longis, pilosulosi, alabastris oblanceolatis, sericeis et cum pilis longioribus erectis; bracteolae oblongae, leviter tomentulosae intus, 11–12 mm longae (glande ad apicem excepto), 3–3.5 mm latae, glande apicali stipitato, stipite 0.5 mm longo; hypanthium ca. 6 mm longum, leviter arcuatum, glabrum, parte apicali discreta; sepala dilute rosea, dissimilia, uno adaxilare maiore, oblongo, 7.5–9 mm longo, 3 mm lato, sparse pilosuloso extus, caeteris sepalis minoribus, plus minusve fusiformibus, 7–9 mm longis, 1.5–2.5 mm latis, glabris; petala 5, sed solum una cum lamina completa, petalo adaxiali cum stipite 5–6.5 mm longo, pilosuloso intus ad basem et ad costam extus, lamina rotundata, 10.5–11.5 mm longa, 7 mm lata, lutea, caeteris petalis glabris, dilute roseis, fusiformibus, acutis, saepe stipitatis, stipite 2–3.5 mm longo, lamina 5–9.5 mm longa, 1–3 mm lata; filamenta 15 mm longa, pilosa versus basem, ad basem breve connata, antheris 1.5 mm longis et 0.8 mm latis; stigma peltato-capitata, stylo glabro, tenui, 17 mm longo, ovario dense pilosuloso, anguste oblongo, 4.5–5 mm longo, 1.5 mm lato, parte libero gynophori ca. 1 mm longo, dense pilosuloso; fructus immaturus 2–3-seminatus, anguste falcato-oblongus, exalatus sed leviter marginatus adaxialiter, 10.5–11 cm longus, 2.5 cm latus, micro-puberulus marginaliter; semina immatura.

*Type-Collection*.—C. C. Berg, F. A. Bisby, et al P-18158 (holotype US, sheet no. 2801086, isotypes A, CUIABA, F, INPA, K, M, MG, MO, NY, P, R, S, U), "Manaus-Caracarai Road, km 140. Campina on white sandstone." Amazonas, Brazil, 27 Sept 1973.

*Additional Collection*.—Km 130 Manaus-Caracarai Highway, Amazonas, Brazil, 17 Feb 1974, W. C. Steward, J. F. Ramos, and O. P. Monteiro P-20319 (NY, US). Both collections are from the same area, both growing on white sands from the weathering of sandstones upstream. Although the location

of duplicates of these collections is cited, they were distributed before I had the opportunity to see them. Consequently data from them were not included in the description.

*Discussion.*—The nearest related species, based on morphological criteria, is *D. neblinensis* R. S. Cowan, but (1) the leaflets of *D. puncticulosa* are four-jugate instead of in two or three pairs and they are much closer together on the rachis; (2) the new species has regularly spaced minute punctae on the undersides of the leaflets (hence the specific epithet); (3) the pubescence of many parts in *D. puncticulosa* consists of short hairlets appressed to the structure-surface, plus much longer erect hairs intermixed; (4) the four sepals of the new taxon are larger than the five described for *D. neblinensis*; and (5) the dimensions of petals and of stamens are significantly different. Although the two species seem well-separated altitudinally (the new one is a lowland “campina” species and the related one is from the slope forest of Cerro de la Neblina at 650–700 m), they both occur on soils derived from sandstones.

This is the fifth species of Section Eremopetala but, unfortunately, the first with flowers having only four sepals. In all other respects, it is easily assignable to this section.

*Candolleodendron brachystachyum* (DC.) R. S. Cowan

*Discussion.*—When I described this genus (*Rhodora* 68:429–432. 1968), there were very few collections known to me and, unfortunately, I did not request a loan from the Herbarium du Centre ORSTOM de Cayenne, French Guiana. Recently I received a collection from there for identification, and in sending back the determination of the specimen as this species I remarked that from French Guiana I had only seen the De Candolle type at Geneva. This resulted in a shipment of a substantial number of specimens by J. J. de Granville, Director of the Department of Botany of ORSTOM, all of which were correctly identified as this species and most of which had been collected since 1968. This note is to present a more complete description, based on a much larger sample of the population in French Guiana. Only organs whose description was inadequate or erroneous are mentioned.

Infrequently, reproductively mature individuals are shrubby and only 0.5–2 m tall, but generally the habit is a small tree about 3 m tall, [(1–2) 3–5(7) m] and with a trunk 5–17 cm in diameter. The bark peels off the branchlets in thin, papery strips. The imparipinnate leaves have two or sometimes four pairs of opposite to subopposite leaflets, borne on petioles up to 10.5 cm long, a rachis as much as 22 cm long, and petiolules (3–) 5–6(–8) mm long. The form of the leaflet blades is regularly elliptic, but the base ranges from rounded-obtuse to acute and the apex from acute to long-acuminate.

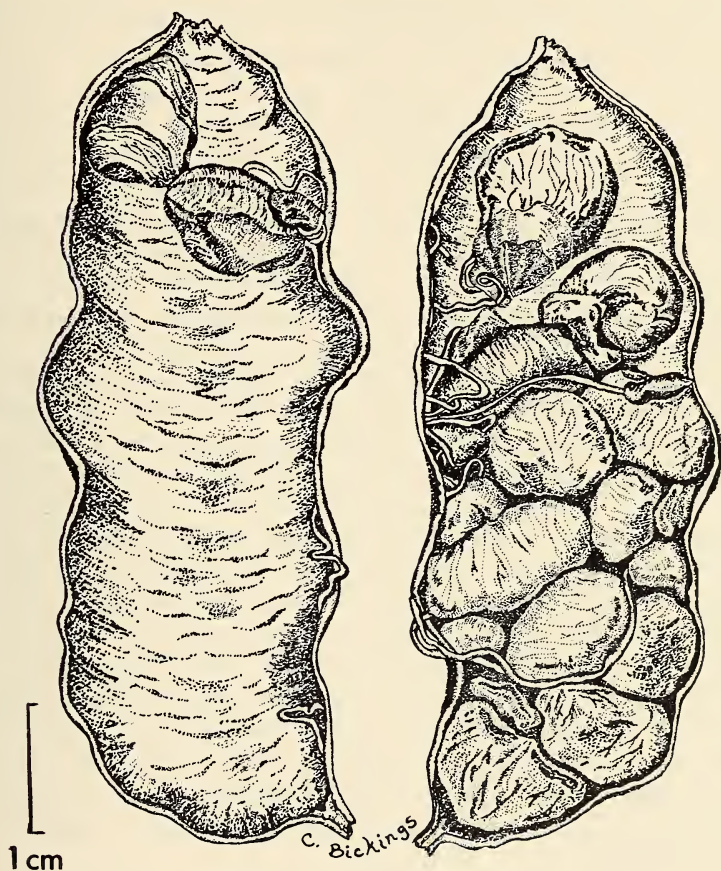


Fig. 1. Fruit with seeds of *Candolleodendron brachystachyum* (Oldeman T.858).

The inflorescences are borne only on the trunk and larger branches, the axes ranging from 6–11.5 cm long.

The yellow, glabrous petal consists of a claw 1.5–2 mm long and a strongly concave blade 15–19 mm long and 10–13 mm wide with the margin irregularly undulate. The numerous, uniform stamens have filaments up to 4 mm long, borne on a fleshy cushion-like torus, from the center of which arises the gyncecium, the ovary containing a large number of ovules in two rows.

One completely mature fruit has been seen and it was larger than the submature ones described earlier—6.5 cm long and 2.5 cm wide. The valves are relatively thin, not more than a millimeter thick at any point. They enclose in a closely packed random manner (Fig. 1) a large number of

seeds, each on an elongate, slender funiculus up to 27 mm long. The funiculus expands abruptly at the seed in a fleshy aril, perhaps one-tenth the mass of the seed. The seed coat (dried) is brown with many vein-like lines extending in a more or less parallel fashion from the hilar region.

Called by the indigenous people "boco," "bocco blanc," "bocco rouge," "coucimi," and "nemba," this small tree is found commonly in French Guiana in the eastern half of the country from Cayenne south and west to the Brazilian borders. Whether this reflects the true phytogeography of the plant or the lack of collecting in the western parts is not known to me. It has most often been recorded on hills at 40 m to 155 m elevation in rain forest. It reaches the height of flowering in December; fruiting occurs in March, although full maturity is not achieved until June.

The following collections are known, in addition to those cited in my original description of the genus, all from French Guiana: Mont Mahury, Ile de Cayenne, de Granville B.C. 53; Sinnamary R., west of Saut Aristide, de Granville 192; Yaraupi R., foot of Saut Tainoua, de Granville 359, 374; summit of Mont Gauthiot, Yaraupi R. above Saut Polissoirs, de Granville 416; mouth of Grand Tamouri, Saut Bambaye, de Granville 2116; Saül, de Granville B.2485; Arataie R., Oldeman B-549; Yaraupi R., Saut des Polissoirs, Oldeman T-562; Oyapock R., Maripa Trail, Oldeman T-858; Montagne Tigre, Ile de Cayenne, Oldeman 1060; "Layou Mariaflor," Oyapock, Oldeman 1861; Comté R., Crique Bagot, Oldeman B2023; Approuague, Crique Tortue, Oldeman 2297; Aratage, "tête du saut Parare," Oldeman 2925; Saut des Polissoirs, Yaraupi R., Oldeman B-3058; Tracé Crique Limonade, Oldeman 3185; Saül, Tracé Belvédère, Oldeman B.4204; Inini R., Station de l'Institut Pasteur, Sastre 1361. All these collections are represented at ORSTOM, French Guiana; presumably they are also at Paris, but I have not seen other duplicates.

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